Examiners' Report
Lead Examiner Feedback

January 2022

Pearson BTEC Nationals
In Applied Human Biology (21327L)
Unit 3: Human Biology and Health Issues

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Grade Boundaries

What is a grade boundary?
A grade boundary is where we set the level of achievement required to obtain a certain grade for the externally assessed unit. We set grade boundaries for each grade, at Distinction, Merit and Pass.

Setting grade boundaries
When we set grade boundaries, we look at the performance of every learner who took the external assessment. When we can see the full picture of performance, our experts are then able to decide where best to place the grade boundaries – this means that they decide what the lowest possible mark is for a particular grade.

When our experts set the grade boundaries, they make sure that learners receive grades which reflect their ability. Awarding grade boundaries is conducted to ensure learners achieve the grade they deserve to achieve, irrespective of variation in the external assessment.

Variations in external assessments
Each external assessment we set asks different questions and may assess different parts of the unit content outlined in the specification. It would be unfair to learners if we set the same grade boundaries for each assessment, because then it would not take accessibility into account.

Grade boundaries for this, and all other papers, are on the website via this link:
http://qualifications.pearson.com/en/support/support-topics/results-certification/grade-boundaries.html

Awarding BTEC qualifications in 2022
Ofqual has set out their plans for awarding qualifications in 2022 and intend to return to a normal, pre-pandemic, approach to grading standards over by 2023. They have confirmed that 2022 will be a transition year, to reflect that we are in a pandemic recovery period and students' education has been disrupted.

Our guiding principle and approach to awarding BTEC qualification results in 2022 will be to ensure parity in relation to the approach being taken for GCSE and A level learners. BTEC courses have a different structure and design to academic qualifications - BTECs are modular

qualifications (with assessments taking place throughout the course) compared to GCSEs and A levels which are linear (assessed and awarded at the same time at the end of the year), and therefore our approach needs to be different.

In 2022 we will return to the usual method of calculating BTEC qualification results, however adaptations including, U-TAGs and reduced internal assessment, are in place to provide a comprehensive package of support for students.

The basis of our awarding approach to BTECs this year is to ensure it is as fair as possible for all learners. We will use a range of evidence to set grade boundaries for the external units. Part of this evidence will be to closely monitor learner performance in all assessments that contribute to learners' final qualification grade, to ensure parity with A level and GCSEs.

Further information can be found on our website and via our Social Media channels.

21327L: Human Biology and Health Issues

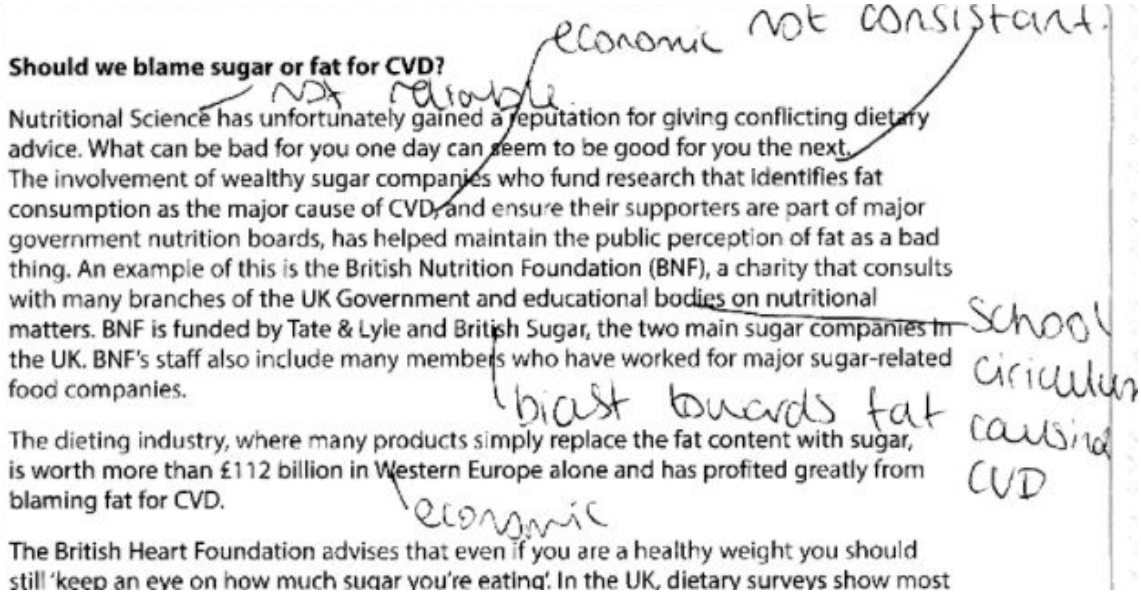
Grade	Unclassified	Level 3			
		N	P	M	D
Boundary Mark	**0**	**9**	**19**	**30**	**41**

Introduction

This was the third sitting of unit 3. The topic was cardiovascular disease (CVD).

Although learners will not be aware of the topic of the article prior to the examination, they will be able to develop the skills required to provide well developed and structured responses to the tasks and draw their knowledge and understanding from the unit into their responses.

Learners seemed to be prepared for the expected questions and most seemed to use the preparation time wisely, by annotating the article to highlight ideas which could then be used to frame their responses.



Should we blame sugar or fat for CVD?

Nutritional Science has unfortunately gained a reputation for giving conflicting dietary advice. What can be bad for you one day can seem to be good for you the next. The involvement of wealthy sugar companies who fund research that identifies fat consumption as the major cause of CVD, and ensure their supporters are part of major government nutrition boards, has helped maintain the public perception of fat as a bad thing. An example of this is the British Nutrition Foundation (BNF), a charity that consults with many branches of the UK Government and educational bodies on nutritional matters. BNF is funded by Tate & Lyle and British Sugar, the two main sugar companies in the UK. BNF's staff also include many members who have worked for major sugar-related food companies.

The dieting industry, where many products simply replace the fat content with sugar, is worth more than £112 billion in Western Europe alone and has profited greatly from blaming fat for CVD.

The British Heart Foundation advises that even if you are a healthy weight you should still 'keep an eye on how much sugar you're eating'. In the UK, dietary surveys show most

Introduction to the Overall Performance of the Unit

Areas where candidates performed well were:

Question 1– identifying evidence, such as sample size, gender bias, geographical location, etc from the article to discuss the validity of the judgements being made.
Question 2 – discussing implications from the scientific issues.
Question 3 – identifying different organisations or individuals from the article and discussion of the influence of the NHS.
Question 4 – expanding upon the areas of further research or development that were identified from the articles, particularly repeating the studies with a more representative sample.
Question 5– selecting an appropriate format and tone for the target audience.

Areas where candidates could do better were:

Question 1 –explaining how the flaws within the evidence positively or negatively affect the validity of the judgements being made within the article.
Question 2 – linking different impact areas.
Question 3 – explaining the sphere of influence of the identified organisations or individuals.
Question 5 – using appropriate information from the article to support their own article in response to the given title.

The specification and sample assessment materials (SAMs) located on the BTEC National qualification webpage located **here**.

Individual Questions

Question 1

Discuss how the article uses scientific information to present the CVD crisis and its dietary causes

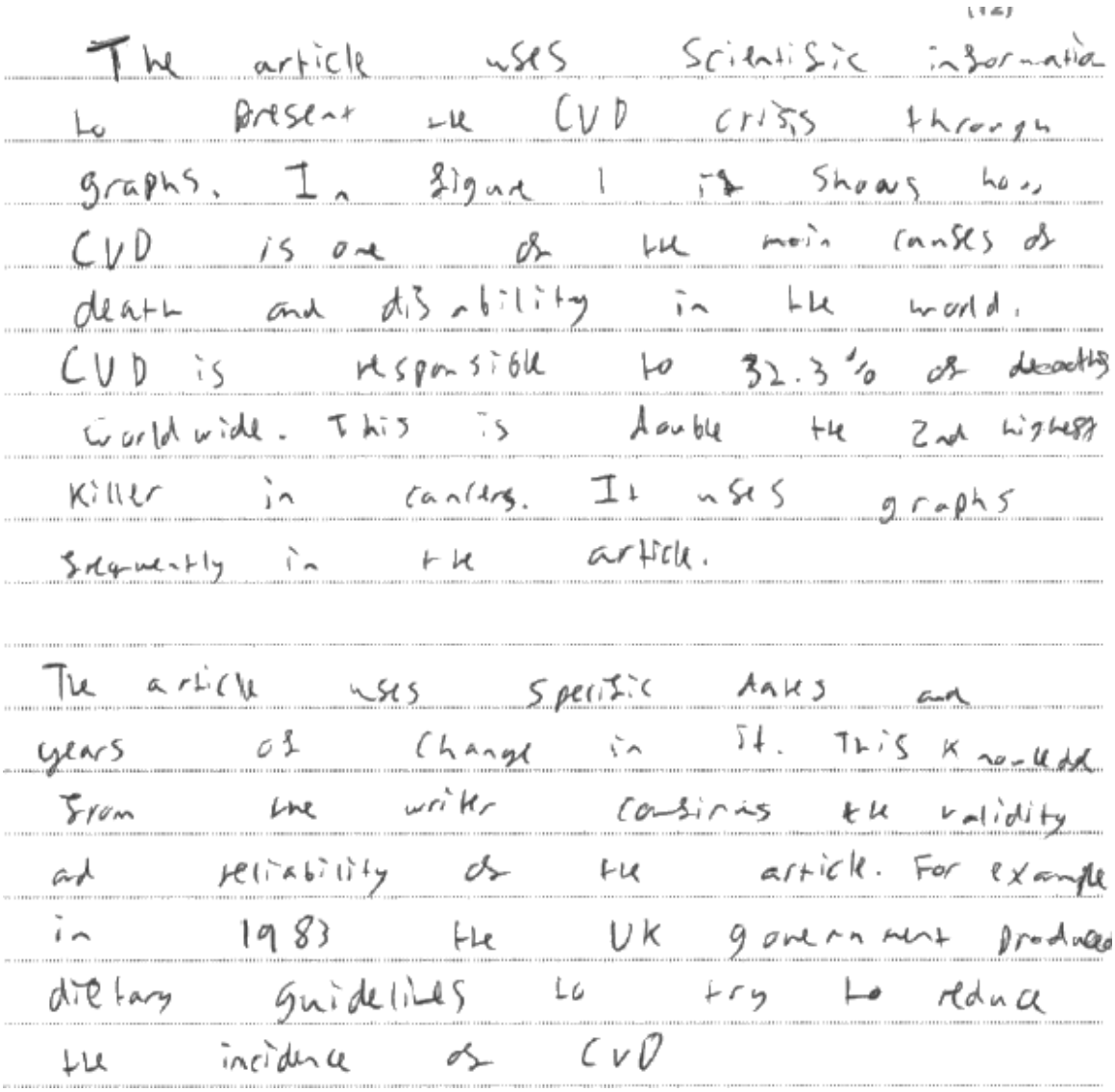
(12 marks)

The learners have developed their skills in critiquing the article. The majority of learners seemed to be capable of discussing the evidence in the article, especially in regard to validity and reliability. The most common criticism of the article was directed at the age of some of the evidence. A significant number of learners felt that Ancel Keys' study should be partly, or even entirely, disregarded entirely due to 'cherry-picking' and his focus only on older men. Some learners queried the reliability of media organisations as sales and sensationalism could affect the approach to the scientific evidence and some were even willing to dismiss evidence from the BBC and the Guardian entirely.

Most learners also mentioned the number of references, if the references were likely to be peer reviewed and the possible reputation of the authors of the references and figures. Higher scoring learners tried to give a balanced discussion by critiquing the article and highlighting the key points that indicate that the article is valid and areas which could suggest that the article was not fully reliable. The learners who gained marks in bands 3 or 4 for their response considered the support for the ideas in the article, any contradictions or errors, number, and quality of the references, the expertise of the named individuals and organisations, any bias within the article and the sample size and detail in the data.

Learners could have developed their interpretation and analysis by working methodically through the article and making reference to the key areas, including the figures, and referenced points. Learners could consider the reputation of the source, the expertise of the author of the referenced material, and any vested interest which may affect neutrality or bias. Learners should also consider the sample sizes and how representative the sample is of the general population.

This response achieved 2 marks. Unfortunately, the learner has misunderstood the question and has described the article, rather than discussing how the article uses scientific information. The comments are very generalised and there is limited consideration of the ideas that the learner could have discussed. There is no reference to validity and so this is an example of a band 1 response.



The article uses Scientific information to present the CVD crisis through graphs. In figure 1 it shows how CVD is one of the main causes of death and disability in the world. CVD is responsible to 32.3% of deaths worldwide. This is double the 2nd highest killer in cancers. It uses graphs frequently in the article.

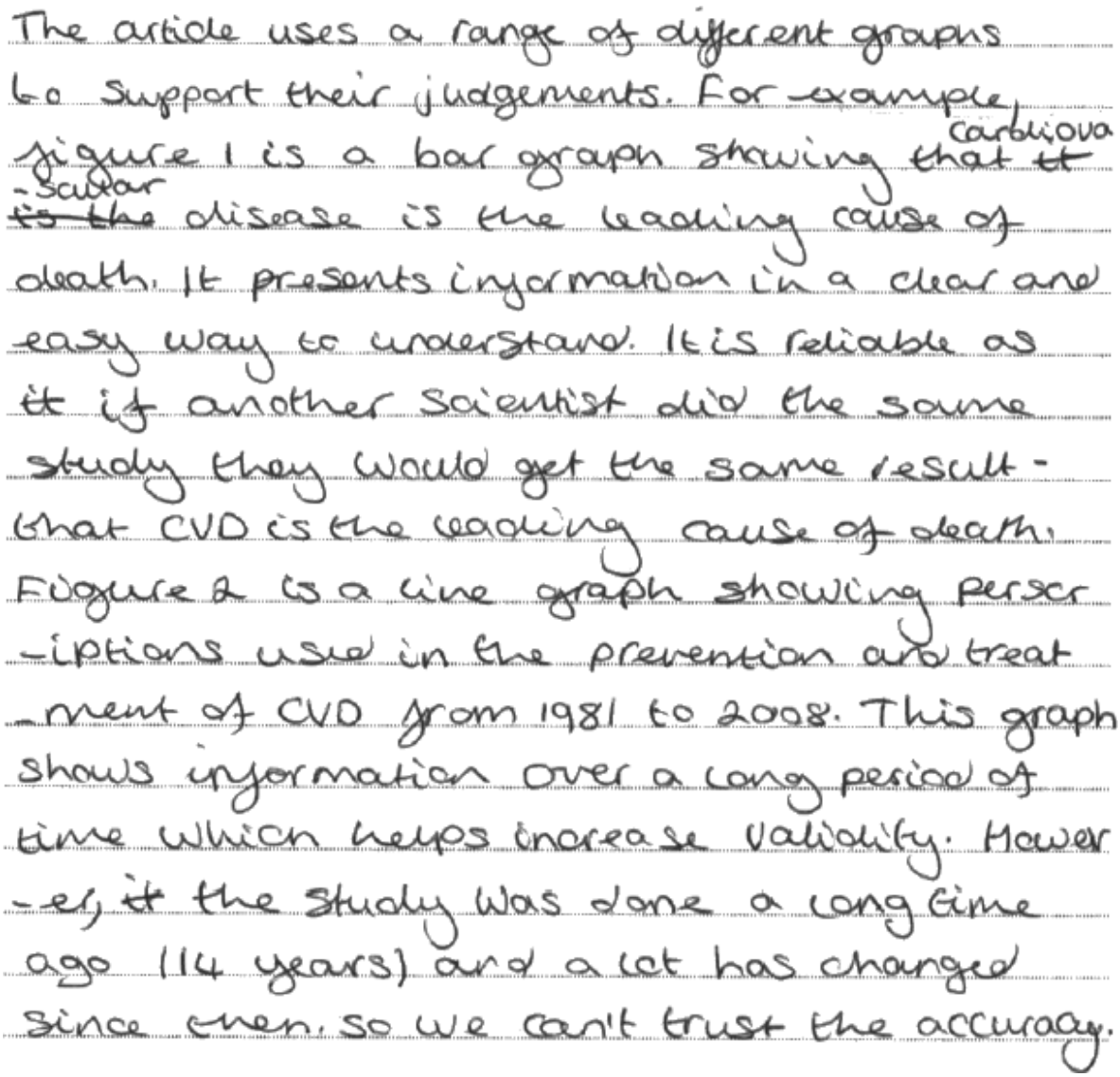
The article uses specific dates and years of change in it. This would from the writer convince the validity ad reliability of the article. For example in 1983 the UK government produced dietary guidelines to try to reduce the incidence of CVD

Another way the article uses Scientific language is by using different studies conducted by Scientists. The writer talks about a particular study by Dr Ancel Keys. His project, The Seven countries Study (SC was the first major study to investigate diet. He found that the countries with the highest fat intake had the highest amount of deaths due to CHD.

The article also includes advice on our dietary ~~intake~~ intake and risk of CHD from reliable Companies like the world health organisation (WHO). The WHO states, total fat should not exceed 30% of total energy intake, intake of saturated fats should be less than 10% of total energy intake, etc. Having this reliability on the ~~subtle~~ subjects severity provides great reliability.

The article also provides references to where it gathered some of its data from. It has also gathered these pieces of information from reliable ~~sour~~ sources like the Lancet, British Heart Foundation, BBC health, ~~etc~~ etc.

This response achieved 6 marks. This is a typical response for question 1 as band 2/band 3 borderline responses are very common. The learner has given the definition of validity and reliability- they are not required to do this, but we often see this in band 2 responses. The learner has considered that the date the reference or study was conducted effects its validity- this is a common idea but is not necessarily correct (just because something is old doesn't mean it isn't good!). However, the studies are flawed but not because of when they were conducted, and the learner has failed to highlight their shortcomings.
The learner has given a basic analysis and has pulled out some key points, but has not developed the lines of argument to give the "... and so" or "...this means that" for their points to give support to their comments and so the response is band 2 response for trait 1. There is structure and some discussion of different aspects, but this is only partially developed.



The article uses a range of different graphs to support their judgements. For example, figure 1 is a bar graph showing that ~~it is the~~ Carbiova-Sattar disease is the leading cause of death. It presents information in a clear and easy way to understand. It is reliable as it if another scientist did the same study they would get the same result - that CVD is the leading cause of death. Figure 2 is a line graph showing perscr-iptions used in the prevention and treat-ment of CVD from 1981 to 2008. This graph shows information over a long period of time which helps increase validity. However, if the study was done a long time ago (14 years) and a lot has changed since then, so we can't trust the accuracy.

Figure 3 is also a line graph, showing deaths from CVD in men against calorie from fat as a percentage of total calories. This study isn't valid as it was completed in 1949. Furthermore, this study was only completed over a year and it doesn't give us an overall pattern of if saturated fat causes CVD.
Lastly, figure 4 shows death from CVD in men aged 55-64 against sugar consumption. The study was done in 1952 which again means we can't trust its findings.

The article is biased towards saturated fat causing CVD. It doesn't take into consideration any other factors that could cause CVD such as; the lack of exercise, smoking, excessive alchol... It also lacks validity as it uses studies that were completed a long time ago to support its findings.

The article has used information from reliable sources such as the WHO, NHS, it has also used information from a

peer reviewed journal which is wrote by scientists and if they are making claims that aren't true it won't get published. However it does use information from the guardian which is not a valid source as they have a biased view. They have a center left view which means that they won't publish anything that makes that party look bad.

This response achieved 12 marks. The response is well-developed and logical and clearly considers a wide range of different aspects. Each issue that they have highlighted about how the article uses scientific information to present the CVD issue has been supported with consideration of validity and reliability. The learner does not have to state this makes it less valid/ reliable for you to know that they have considered the flaws/ problems/ strengths of the scientific information. Reference to gender bias, sample size, references, studies included etc are key ideas that suggest a detailed consideration.

The article starts off by stating how cardiovascular disease is one of the main causes of death ~~and~~ and disability word-wide. Following this Figure 1 shows how CVD has the highest percentage rate for death than other diseases. However it doesn't provide data for the disability rates. That conclusion was not supported by any data, making it hard for it to be believed thus decreasing its validity. Although the graph is helpful to visualise the difference in CVD deaths to other diseases the graph does not add up to 100% as only certain diseases had been included of which makes us question whether an important piece of data had been left out. Additionally these conclusions and ~~that~~ statistics had been published by the BBC news. Because the BBC are not healthcare professionals or qualified scientists, it dampens the reliability and validity of the source.

A conclusion was made within the article that saturated fats was the cause of CVD. A study called the Seven countries study was done to provide evidence for the theory. Dr. Ancel keys, the Dr running the study, investigated the lifestyle and diet of 11579 males between the ages of 40-59 from ~~Asteria, Canada~~ across 4 regions of the world, the United States, Northern Europe, Southern Europe and east Asia. There are a few aspects of this study that question the validity and reliability of the study. Firstly there is gender bias as he only uses males in his study ~~which is unrepresen~~ and only studies males from age 40-59. These factors cause the study to be unrepresentative as it cannot be applied to the whole population. Following on from that in Figure 3 (a graph presenting keys findings) it is hard to get an accurate estimate as the graph is presented as a scatter graph which is good for visual analysis but not if you wanted an accurate number. Also ~~in the~~ where the letters and corresponding countries are in the key there are only 6 countries presented in the graph not 7. And finally in the graph the ages start from 45 not 40 so the information given is misleading. All these factors decrease the

validity and reliability of the study therefore possibly making his conclusion invalid. It was also founded that key was cherry picking information for this study of which ~~was used~~ had major influence on the dietary guidelines ~~the~~ for over 30 years but it was based on misleading and inaccurate information.

To give a non-biased recommendation the World Health Organisation created ~~guide~~ guidelines to avoid unhealthy weight gain by advising people to not exceed a certain amount of fat and sugar. This was also made in 2019 so has temporal validity and is fairly relevant to present day.

~~Sugar Companies~~ The researchers get their funding from sugar companies which results in the research becoming biased as the sugar companies dont want their reputation to be ruined so the ~~[illegible]~~ influence the outcomes of the research which is causing ~~[illegible]~~ for biased information to be published, ~~potentially misleading~~ and therefore is not valid or reliable.

Question 2

Discuss the key factors affecting the CVD crisis and its dietary causes

(16 marks)

A large number of learners provided answers that overlapped with question 1, especially in terms of validity and reliability. Many structured their responses around economic, environment, social, and ethical factors, often confusing the latter two. There were a number of good answers that mentioned genetic or other contributing factors and evaluated the impact each factor may have had on CVD. There was almost no reference to salt, fatty acids or statins or any awareness of the rise in prescriptions being indicative of anything other than a rise in CVD.

Weaker learners simply described material from the article; they demonstrated limited understanding of the issues or impacts, especially in regard to ethical factors, and their discussions often lacked structure. Some learners tried to force an environmental factor which was not valid. There does not have to be factors in each category for a band 4 response.

Some learners approached the task rather mechanistically by listing the factor as a sub-heading, thus indicating a lack of ability to synthesise the information across all the factors. The learners could have benefitted by using short quotes and statistics from the article to support their ideas throughout their response. High scoring candidates demonstrated comprehensive knowledge and understanding of the scientific issue and structured their discussions by selecting and using relevant material from the article. They produced coherent and logical accounts and discussed links to and between the factors.

This response achieved 3 marks. The reference to the article is limited. The discussion is limited and basic. There are points about CVD but the information given by the learner doesn't really answer question. One factor is mentioned and so this is just sufficient for 2-3 marks and so 3 marks have been awarded.

On factor affecting the CVD crisis is agriculture and food manufacturing in the 20th Century Supermarkets provided quick and easy meals, snack foods and sweets. Along with this home cooked meals were replaced with fast which are cooked in oil and more unhealthier than home cooked dishes with this, became a rise in various diet related illness and including CVD. The Next factor affecting the CVD crisis is Sugar. Once the UKs Government national advisory committe on Nutritional education advised people to Consume less Saturated fat and Cholestrol. Consumers and the food industry alternatives to products such as Semi-Skimmed Milk and fat free Yogurts which were low in fat and high in sugar. Another factor affecting the CVD crisis is and found it didnt reduce the amount of people developing CVD at all. Another factor affecting CVD is the research

Support as the research has been Conducted on just males and not females which means the findings can only be generalised to males not females

This response achieved 10 marks. This shows good knowledge. There is some irrelevance about practice and so does not reach band 4. However, the response is well-developed for trait 3 and almost has a wide range of factors.

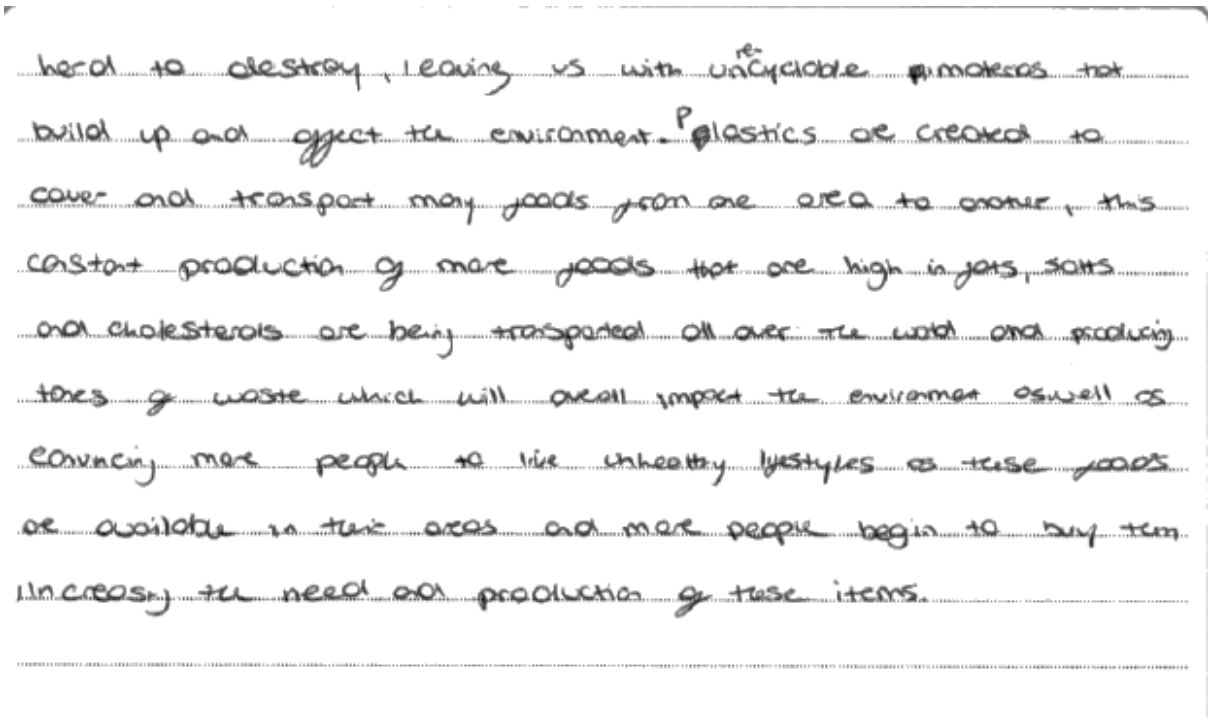
One key factor effecting the CVD crisis is its impact on the individual, as we know multiple states this generation are providing more and more fast food areas, along with advertisment towards these unhealthy foods. The more availibility of these unhealthy foods along with the cheaper prices will convince individuals to continue in unhealthy lifestyles, influencing others to do the same. The more we are tempted to eat these fast foods, the more likely people are to develop CVD. There are multiple options now far from the click of a button unhealthy foods can be delivered to your house. CVD is caused effects the heart and bloodvessles, the more unhealthy foods consumed equal more cholesterols being ingested which are known to clog blood vessels and lead to multiple heath conditions, thats why exercise is key but the population of people who keep ordering foods become dependent on the lifestyle which may influence others to copy that habbit, influenc -ing the nations health.

Similarly you may notice that on tv and many social media platforms, many unhealthy products are being promoted and becoming popular, these unhealthy foods are seen way more than healthier life style promotions, this may lead to 'brain washing' as people see more and more unhealthy choices online they may what to take up those habbits and buy those products,

which y they enjoy will repeat this behaviour and influence more peers to try it too. We know not unhealthy lyfe styles are the main cause to CVD, so brand companies instead should try to promote healthier lyestyles like exercise which once broadcasted may inspire people to change their habbits and live a more healthier lyestyle.

The economic side to the argument may involve the profit these good organisations are gaining from promoting their companies goods to the world. For example y companies can convince more people to eat their goods, the more money they will make. this is why they promote cheaper prices to individuals as the lower the price, the more likely people are to buy it and repeat the action buying more and more as its easier and cheaper than some healthier options available. y products can be found cheaper, this will convince individuals that they can save money by buying these lower priced tasty unhealthy ^ goods, overall boosting the economic side to fast good organisations. This may lead to more unhealthier lyestyles along with the cholesterols as its seen to be one g the causes towards CVD.

The environmental factors towards CVD can be summarised. as its effect ~~on animals also~~ with the waste products, CVD is caused by the consumption of unhealthy products, these ~~products~~ goods are along with others are wrapped in plastic, which can be



herd to destroy, leaving us with unrecyclable plastics that build up and affect the environment. Plastics are created to cover and transport many goods from one area to another, this constant production of more goods that are high in fats, salts and cholesterols are being transported all over the world and producing tones of waste which will overall impact the environment as well as convincing more people to live unhealthy lifestyles as these goods are available in their areas and more people begin to buy them increasing the need and production of these items.

This response achieved 16 marks. This is a strong response. There are links between the factors which would suggest a level 4 response. There is lots of different aspects being considered with almost all being consistently supported.

A key factor regarding the CVD crisis, is an economic one. This is because not only is the cost for food manufacturers to change their food high, but also there is a lot of money involved when people are dieting. This is because "dieting industries are worth more than £112 billion", and this is usually just to replace the fat content with sugar. This has led to a large profit for many companies across Western Europe. Another economic factor is that "CVD is one of the most common causes of death within hospitals", and this will be causing an economic burden onto healthcare systems for treatment, and hospital care meaning that there is amounting debt. A benefit to this is that some people will see the campaigns and news reports, and this will help them diet, which indirectly removes them strain from healthcare systems as a healthy diet can prevent CVD

An ethical and social issue regarding this would be that dieting for some individuals can be difficult, and they may require psychological help alongside this which would cost more money for healthcare services. Also, there are increasing numbers of patients who have CVD, and it would be unethical to decide who qualifies for treatment and who doesn't. In countries other than the UK, healthcare may not be free, meaning people may not be able to afford treatment. There may not be enough space for people to get treatment due to lack of healthcare resources, and this would have a social impact. However, on the other hand, if society takes up better habits with dieting, it could have a positive effect on the public. It cost the NHS a lot of money between "1981 and 2008" as "it saw a huge rise in incidence of CVD and in the number of prescriptions from doctors" which will have financially challenged the NHS in England.

An environmental issue that can be discussed regarding CVD and dieting, is that they are having to manufacture healthier foods, and farm more organic foods which is using more energy and carbon footprint. There are also a lot of pre-packaged meals and full fat items that are being wasted, as they are not required anymore as they are being replaced by skimmed milk and free-fat yoghurts. The food that is being transported, is now travelling further as there is now a higher demand for this. There is the medical equipment and the medications that aren't being used, that have to be disposed of correctly, which will create more carbon footprint.

There is an ethical and economic issue, that because things are having to be made more healthily, the cost of the product is rising, and this means that the ready meals unhealthy option is sometimes all some people can afford to purchase. This means with the price of the food increasing, there are going to be more people unable to afford to eat.

A social issue is that not all countries have the same experience with Cardiovascular disease. For example, "people from Holland and Norway consumed high levels of fat in their diet, but there were very few people with CVD". This is an issue because they are trying to apply the same research to all incidences, even when there is clear differences between the cases.

Question 3

Explain how different organisations/ individuals influence the CVD crisis and its dietary causes

(10 marks)

Learners seem to struggle with this question the most. Most learners identified the individuals and some organisations throughout the article and references. Some learners tended to work through the article and then the references, making a comprehensive list of the organisations and individuals mentioned; however this did not provide the required explanation. Many found it difficult to balance discussing the spere of influence in appropriate depth with including a wide enough range to give a good overview. Once again, the responses to this question showed significant overlap with question 1. Some learners merely restated the article as the influence and did not consider the knock on effects that an individual or organisation could have on the issue of CVD. Some learners displayed limited ability to actually link their answers to the article. giving generic roles and responsibilities, such as Ancel Keys carried out a study or the NHS provides health care and information. The idea of influence was largely underdeveloped in many responses. Some learners remained unclear about how the various organisations could influence the development of ideas on the issue by, for example, carrying out research or by influencing political policy worldwide. The strongest answers evaluated the impact each organisation/individual had on CVD, both positive and negative, and discussed how that influence was felt e.g., by changing Government policy or by changing people's behaviour.

This response achieved 3 marks. The learner has not given sufficient detail about the influence – they have given some basic details and so this can be considered a band 1 response.

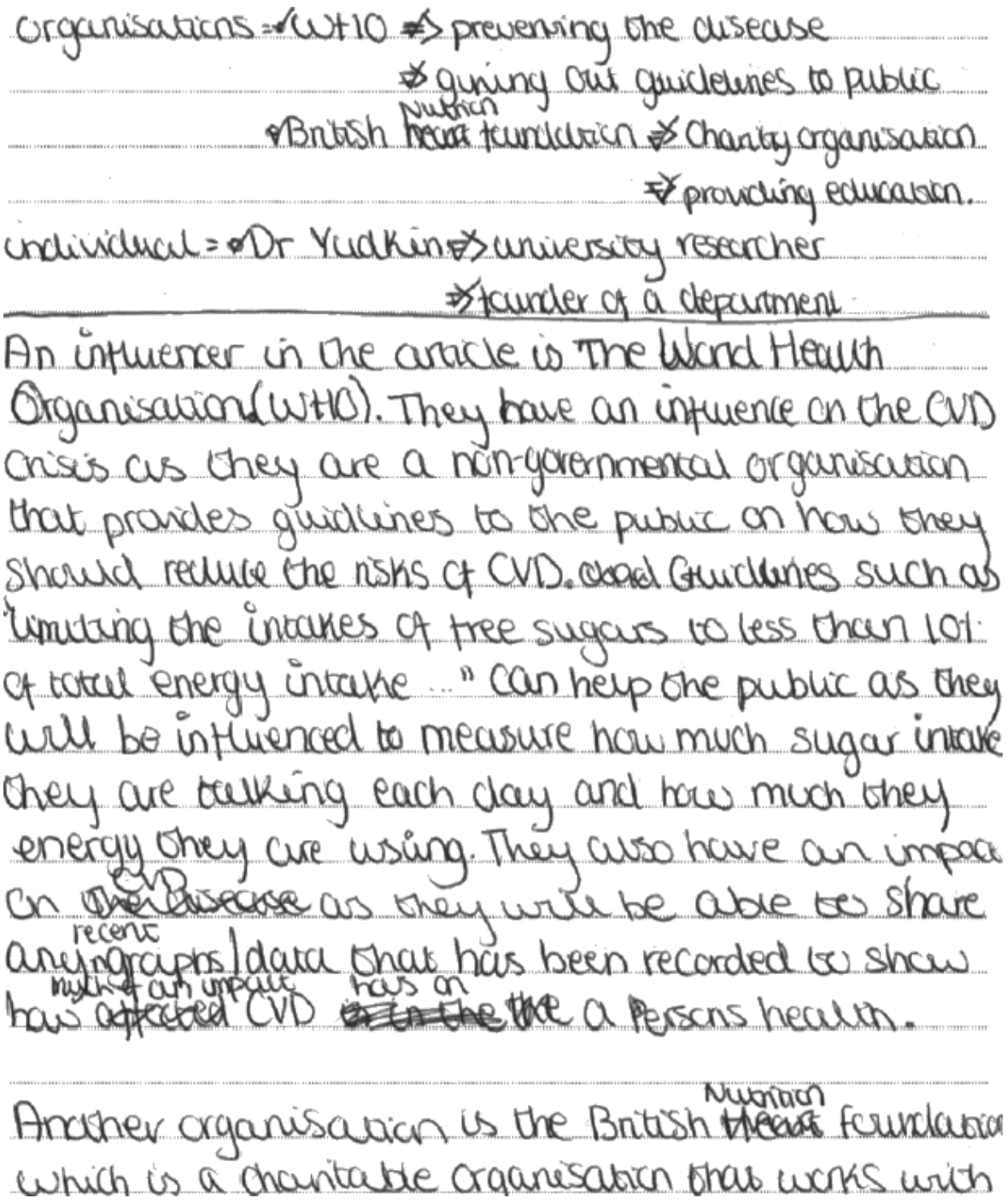
The NHS raise awareness of the CVD Crisis and the dietary causes. They also offer suggestions of how to manage or prevent the disease through campaigns, advertisements online information on the website, posters etc.

Media articles such as The Guardian help to raise awareness and also advertise campaigns so funders can contact them and help mitigate the issues.

The BHF are a charity that fundraise to help support health issues which also raises awareness and encourages the public to be involved.

A global company known as the World Health Organisation (WHO) fund the studies that take place and they also implement rules for doctors and nurses. Due to the fact that they are a global organisation, their information can reach everyone.

This response achieved 7 marks. This is considered to be a top of band 2 response. The learner has given some suggests for individuals and organisation but has not fully explained the influence. The learner could give detail of the influence of one organisation/ individual, or they could give minor suggestions of the influence of several organisations/individuals and gain a mark in band 2.



organisations = WHO ⇒ preventing the disease
⇒ giving out guidelines to public
⇒ British Nutrition heart foundation ⇒ Charity organisation
⇒ providing education.
individual = ⇒ Dr Yudkin ⇒ university researcher
⇒ founder of a department

An influencer in the article is The World Health Organisation (WHO). They have an influence on the CVD crisis as they are a non-government organisation that provides guidelines to the public on how they should reduce the risks of CVD. Good Guidelines such as "limiting the intakes of free sugars to less than 10% of total energy intake ..." can help the public as they will be influenced to measure how much sugar intake they are taking each day and how much they energy they are using. They also have an impact on CVD as they will be able to share any recent graphs/data that has been recorded to show how myth of an unpaid has an affected CVD ~~in the~~ the a Persons health.

Another organisation is the British Nutrition heart foundation which is a charitable organisation that works with

many different people in supporting them eg. with any help that they may need. They also help with providing education on how & CVD has become a crisis and what can be done to help prevent a further increase*. They can have an impact by introducing events that can help with understanding the amount of sugars and fats that should be consumed daily and run programme packs that provide recipies for & maintaing a balance diet.

* in which they do this by consulting in the UK government ~~there~~ which is an organisation the works with making laws and people following

However an individual that has an influence on the article is Dr Yudkin who is the founder of the 'Department of Nutrition at the University Of London.' His influence is that he ~~he~~ could have biased opinions as he would want to make more funds in what he has researched as more money would go to the university. However he has made an impact as he has been able to find a link between the levels of sugar in diets ~~and fat~~ in 1957 and 59 years later in 2016 an article from the Lancent journal were able to confirm the link

(Total for Activity 3 = 10 marks)

This response achieved 10 marks. The influence of the organisations and individuals are clear. The learner has given logical suggestions, supported throughout with linkage to the article.

One of the organisations which influence the CVD crisis and its dietary causes is the UK government. They have been an organisation that has had an influence to the public for a vast amount of time now. They influence the CVD issue as they have set up health initiatives such as the dietary guidelines in 1983 with the goal of Preventing the Public from excessive ~~use of~~ intake of Saturated fat and cholestrol, they also implemented the Sugar tax in 2018 which imposed a cut down in Sugar so we can identify that they are targetting the two causes of CVD; Fats and Sugar. They have heard their influence on the Public on a national level which has had a decent outcome as people are more inclined to listen to them even though "the guidelines" weren't compulsory measures.

A Second organisation is the British heart foundation, they are a well known national charity who primarily focus on ~~people~~ providing help to people with CVD and other

heart related conditions, The influence the Public as they provide guidelines such as "a cut down on refined Sugars", they also influence CVD as they lobby the goverment in parliament to enforce more rules in preventing CVD. The ~~influence~~ influence they carry is on a national level.

A third individual ~~[illegible]~~ which influences the CVD crisis is the Dr Ancel Keys who is an American Scientist who has lead the Seven Countries study in 1958. This was a major Study to investigate the risk factors of CVD and the diet and lifestyle. The Study yielded results ~~[illegible]~~ Slyesting that unsaturated fats caused CVD. His influence on the CVD crisis is on a national level because the UK goverment has used his evidence to support the guidelines and his work is quite well known globally.

A fourth individual who has influence on the CVD crisis is Dr John Yudkin who is the founder of the department of nutrition at the University of London. He investigated and discovered the link between Sugar consumption and CVD. He has influence as his research was Published in the Lancet, I believe the influence he has is on a local Scale.

Question 4

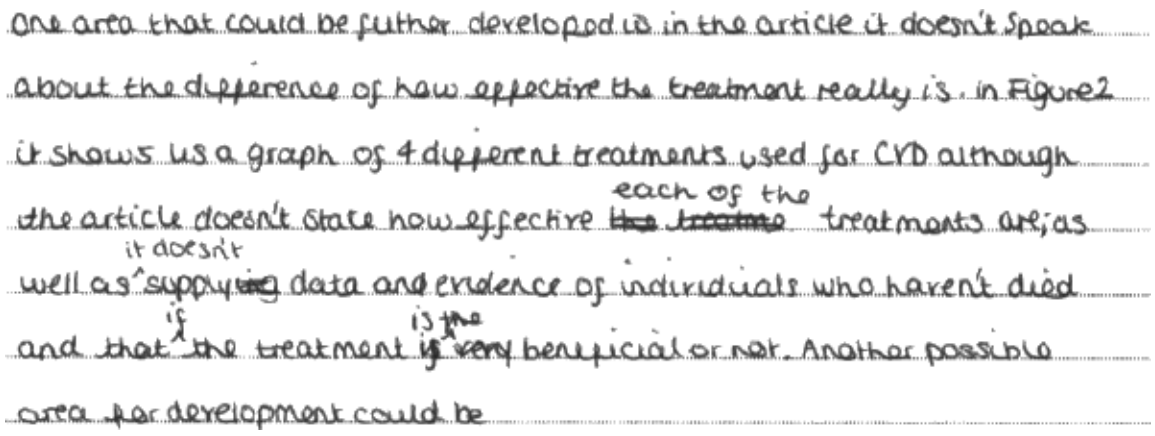
Suggest potential areas for further development and/or research of the CVD crisis and its dietary causes

(6 marks)

This question was quite well answered. However there were a large number of vague and generic references to carrying out further research or finding more causes of CVD. Some learners provided descriptive lists of potential areas for development, without supporting their ideas with key points from the article to provide reasoning or details for the development or research.

A majority of learners picked up on the need to look at a much wider demographic with common answers suggesting expanding studies to include women and a larger age range. A few were even able to back up their ideas with links back to the article. The strongest answers went even further, explaining why further research would be useful and what it would add to our understanding, justifying rather than just listing ideas.

This response achieved 1 mark. The learner has misunderstood the question and has suggested improvements to the article. There is just an appropriate isolation suggestion implied and so is borderline for 1 mark. We tend to "round up" when there is very little creditworthy and so 1 mark can be awarded for an isolation comment.


One area that could be further developed is in the article it doesn't speak about the difference of how effective the treatment really is. in Figure 2 it shows us a graph of 4 different treatments used for CVD although the article doesn't state how effective each of the treatments are; as it doesn't well as supplying data and evidence of individuals who haven't died if is the and that the treatment is very beneficial or not. Another possible area for development could be

This response achieved 3 marks. The learner has identified, but not sufficiently explained, their ideas. There is just sufficient detail to award a band 2 mark.

One area for further development would be more up to date research for males younger and older than in the research currently and for females as there was no data representing any females.

Another area which could be improved is the treatment and prevention methods. Most of them are drugs or therapy. There could be research into vaccinations or early screening processes to identify the disease sooner and maybe even before it has developed into a more serious case.

The BHF and NHS could conduct more education around CVD and the importance of it.

There could also be more research into the cause of CVD. There may be other factors other than dietary causes maybe genetics.

This response achieved 5 marks. Reasons for the developments have been given. There is linkage to the article and the learner has suggested ideas related to age, gender and sample size which are all appropriate ideas for further research.

Dr Keys' Seven countries study could be improved by studying more countries. This would allow a larger sample across more countries to be investigate so a trend can be spotted and the research will increase in validity as any anomalies can be spotted.
His research could also be improved by including females in his sample. This would provide data for both genders, meaning the findings are more reliable and more generalisable to the population. It also means we can use the study to get practicle applications such as preventitive schemes for CVD where reduced fat diets are included.

Dr Yudkin's study could be further developed also by including females in his study as this will increase the sample size, include both genders and be more inclusive so that practical applications, such as reduced sugar diets to prevent CVD, can be made as the findings can be more accurately

generalised to the wider population.

Both Dr Judkin and Dr Keys' studies could be developed by increasing the age range of which they studied. For example Dr Judkin's sample were aged between 55-64 and Dr Keys' were aged 40-59 years old. If they studied a range of ages, from 30 - 90 for example, then the findings of the study could be used for people of a wider range of ages rather than a range of around 20 years.

Question 5

A recent news headline said:

Fat was framed: Sugar is the real criminal behand the CVD crisis.

You have been asked to write an article for a health and lifestyle magazine about the importance of diet in reducing the risk of CVD.

When writing your article you must consider:
• who is likely to read your article
• what you would like the reader to learn from your article.

(16 marks)

It was evident that some learners attempted the higher mark questions first, rather than working through the questions in order, and so almost all learners had attempted question 5.

This question produced some excellent responses with the majority of learners demonstrating a good level of English and showed a awareness of their audience, writing in an appropriate tone, with authority, and using the correct terminology.

Some of the poorer responses were largely a repeat of earlier questions or discussed one aspect, such as diet, alone. Many learners just gave generic diet advice, re-writing the WHO's health eating guidelines at length. Although an article was asked for some learners produced a letter. The content was credited, but the tone was often incorrect for the required task. Learners should be reminded not to include personal details within their exam responses- when a letter is required the learners do not have to give an address or even sign off with their name- it is the tone and awareness of the audience rather than the layout which is credited.

The highest scoring responses tended to have a persuasive tone and discussed fat and sugar, before giving dietary advise. The learners had used information from the article as quotes or ideas to support their own response and gave a logical well structured response to gain marks within band 4.

This response achieved 4 marks. The learner has not really processed the original article and so trait 1 is in band 1 for identifying some key information.
Trait 2 and trait 3 are stronger- in band 2 and so overall 4 marks have been awarded.

Fat was framed: sugar is the real criminal behind the CVD crisis.

Most people are aware of the CVD crisis; But if not heres all the information you need to know.

What does CVD stand for and what is it?
CVD stands for cardiovascular diseases. Cardiovascular diseases are diseases which affect the heart and blood vessels.
-CVD causes 32.3% of all deaths.

Why are they bad?
CVD's can cause increased blood clots in blood vessels as well as Atherosclerosis, which just means a build up of fatty substances on artery walls. these two things can lead to heart attacks and strokes

,As well as damage to the arterys (and blood supply to organs. Meaning you can gain organ damage if Not carefull. This may sound intense but the truth is CVD cases and deaths have been on the rise since the 1950's, making it the crisis that it is.

How ~~do I p~~ can one prevent CVD?
In the past it has been said that fat directly causes CVD. Im here to tell you that is a lie, Sugar is the real criminal. Companys and charitys ~~th~~ such as the British Nutrition Foundation have been telling you for years that fat is the villian; What their not telling you is how they them Selves are lying, as they are Funded by two major Sugar companys, So obiously they want you to think ~~Sugar is the bad guy. When really there are so many harmless natural sugars in food~~ that fat is the bad guy. But really it is sugar.

Experiments conducted by British Scientist

Dr John ~~Yudkin~~ Yudkin concluded this, that sugar intake leads to CVD.

So you want to prevent this? You need to maintain a balanced diet, some fats and natural sugars found in food structures like fruit and cheese which are okay, and all your usual nutrients like protein and fibre. This way you will not have too much of any one substance, especially sugars. Of course keeping active and leading an active lifestyle is also suggested.

References include;

~~British Nutrition~~

- British Nutrients foundation
- NHS England website
- Dr Keys study 1949
- Dr Yudkins study 1957.

This response achieved 8 marks. The learner's article focuses on sugar and so does not give a balanced argument about sugar and fat. Their language and structure are good, and they have attempted to link back to the original article.

Cardiovascular disease (CVD) is a term for conditions affecting the heart or blood vessels. CVD is usually associated with atherosclerosis and an increased risk of blood clots in vessels such as coronary arteries and arteries in the brain which may cause heart attacks or strokes. As a result of the developments in agriculture and food manufacturing supp supermarkets provided quick and easy meals, snack foods and sweets. Along with homecooked meals being replaced with saturated fat packed fast food. Noticing a rise in diet related illnesses Scientists advised people to eat less saturated fats. The food industry started to produce alternative

items such as skimed milk which was high in sugar and low in fat. This alternative didnt have the desired effect so the question of is it just fat causing the CVD crisis? or is sugar partly to blame?

Tate and lyle along with British sugar influence the CVD crisis and framing fat the be the cause of CVD as they are a wealthy sugar company that fund research to identify fat as a major cause of CVD. and ensure their supporters are part of major government nutrition boards. has helped maintain the public's perception that fat and carbohydrates towards the development of CVD.

This response achieved 14 marks. The tone is appropriate for the audience. The learner has drawn together key information from the article and shows a well-developed structure that is clear coherent and logical.

Diet and how it can reduce your risk of cardiovascular disease.

Cardiovascular disease, CVD, is a disease caused by fatty build ups in your heart and blood vessels. This disease, usually associated with an increased risk of blood clots in vessels, is among the biggest killers in the UK, killing more per year than cancer. CVD can cause damage to other organs aswell as your heart, including your kidneys and eyes. There have been links made between cardiovascular disease and fats & sugar intake.

It is commonly known that high fat and cholesterol diets cause heart problems and obesity, and this is true, however it has come to our attention that this is only one possible risk factor for CVD.

A study by American scientist, Dr Ancel Keys, in 1958 has shown us a strong, clear link between saturated fats being high in a

diet and CVD. Although this study is rather old, the fact is still there that high diets high in fat increase the risk of CVD. The study Dr Keys conducted consisted of 11,579 males between the ages of 40–59 across the united states, Nothern Europe, Eastern Europe and East Asia. He found that the USA had the largest percentage from fat as their total calories (around 38%) and they also had the highest number of deaths per 1000 caused by CVD (7/1000) Japan, on the other hand, had less than 10% calories from fat as a percentage of total calories and they had less than 1/1000 deaths from CVD. This goes to show that there is a strong link between fat intake and risk of CVD, meaning it is all the more important to maintain a healthy, reduced fat, diet.

As previously mentioned, fats are not the only risk factor when it comes to CVD. A study by the founder of the nutrition department at the University of London, Dr Yudkin, has informed us that sugar is also a big risk factor. In his 1982 study based on 100,000 men aged 55–64 who died of CVD in 1958, he again found that the USA

had the highest number of deaths per 100,000 (around 850-860) and one of the highest sugar intakes, (2016/year) by ~~a~~ lb per year. Japan again had the lowest number of deaths (less than 100/100,000) and one of the lowest sugar intakes (2016/year). ~~The reason fats~~

The reason we have found, for fats getting the main blame for causing CVD could have something to do with how the two main sugar companies in the UK, Tyle & Tate and British sugar, fund the British Nutrition foundation (BNF). It is possible that they sway the BNF to find and advertise 'fat blaming' research more than sugar blaming, in order to benefit financially, ~~and this is why fat gets the main blame.~~

So the things to take away from this article are to consider reducing your fat and sugar intake as a preventative method for CVD, and also to consider whether it is reliable to have our nutrition information provided by sugar company funded foundations such as the BNF. Always think twice about your source of information in order to get the whole truth.

Summary

Question 1:

The key focus of this question is the validity of the judgements being made by the article, so candidates must identify what the conclusions are and whether these are justified and supported. While candidates need to be clear about validity and reliability, they must be taught to be able to recognise and articulate the evidence for this within the article.

Learners could consider the following:
• Support for the ideas in the article,
• Contradictions or errors,
• References,
• Expertise of the named individuals and organisations,
• Bias within the article
• Sample size and detail in the data.
The question requires a discussion so positives and negatives must be drawn out.
Candidates should try to avoid reliance on generic statements such as the number and currency of references.

Question 2:

Learners should clearly establish the scientific issue/issues before examining evidence from the article for the implication areas. Where applicable learners should consider the ethical, social, economic and environmental factors related to the issue, but if a factor is not relevant then they do not have to force an idea. Instead they can give several factors for each relevant area.
Responses that simply take an implication-by-implication approach are unlikely to show links to and between implication areas.
Although a high number of marks are allocated to this question, learners must be careful to manage their time so that they do not spend too long on this question.

Question 3:
Candidates must provide more depth than simply provide a list of organisations/individuals mentioned in the article.
Responses need to consider how wide and deep the organisation or individual's sphere of influence is in respect of the scientific issue.
Consideration of a range of different organisations or individuals will allow candidates to discuss different viewpoints and motivations.

Learners would only be expected to use the information from the article but may have some personal knowledge of organisations listed in the specification, such as the NHS which would develop their response.

Question 4:

Identification of areas for further research or development within articles is a good starting point, but learners must be able to extrapolate from this within their own suggestions and ideas. Learners can be creative using the lines of argument from the article. A bullet point list can be used to give a number of relevant suggestions, but this is likely to be low scoring. Focusing on two or three ideas with reasoning, such as how the development could affect the issue, with support from the article for its relevance and detail of how the research or development could be conducted is likely to score higher marks.

Question 5:
Candidates need to respond to the format of the evidence required by the question e.g. a report would generally be expected to have a title, introduction/background, discussion, and conclusion/recommendation, a letter could have a more conversational tone but should be suitable for the recipient and purpose. However, letters should not contain any personal information, e.g. address, and do not have to be signed by the learner.

Responses need to consider the target audience. Some key considerations are who is the audience, what is relevant to the audience, what is the level of understanding of the issue, what should be the tone that they are addressed in, and should the evidence be advising or informing.

Candidates must be careful to manage their time throughout the paper to ensure that they have enough time at the end to provide a response to this question.

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